BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

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In the Matter of	)	
	)	
Amendment of Parts 2.106 and 25.202	)	
of the Commission's Rules to Permit	)	
Operation of NGSO FSS Systems	)	RM No. 9147
Co-Frequency with GSO and	)	
Terrestrial Systems in the	)	
10.7-12.7 GHz, 12.75-13.25 GHz,	)	
13.75-14.5 GHz, and 17.3-17.8 GHz	)	
Bands, and to Establish Technical Rules	)	
Governing NGSO FSS Operations	)	
in these Bands	)	

COMMENTS IN SUPPORT OF PETITION FOR RULEMAKING

LORAL SPACE & COMMUNICATIONS LTD.

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August 27, 1997

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in these Bands	)	

COMMENTS IN SUPPORT OF LORAL SPACE & COMMUNICATIONS LTD.

Loral Space & Communications Ltd. ("Loral") supports the Petition for Rulemaking ("Petition") filed by SkyBridge L.L.C.[1] Loral urges the Commission to promptly initiate a rulemaking so that the issues raised in the SkyBridge Petition can be addressed and appropriate rules can be developed to permit NGSO FSS systems to operate co-frequency with GSO and terrestrial systems at Ku-band while fully protecting those GSO and terrestrial systems from interference.

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1 In the Matter of Amendment of Parts 2.106 and 25.202 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the 10.7-12.7 GHz, 12.75-13.25 GHz, 13.75-14.5 GHz, and 17.3-17.8 GHz Bands, and to Establish Technical Rules Governing NGSO FSS Operations in these Bands, RM-9147, *Petition for Rulemaking of SkyBridge LLC* (filed July 3, 1997) ("SkyBridge Petition").

Loral's Satellite Interests

Loral has a broad range of satellite interests. Loral is developing the Globalstar™ low-earth orbiting Mobile Satellite Service ("MSS") above 1 GHz ("Big LEO") system that will provide voice, data, facsimile and other services in U.S. and global markets starting in 1998. In developing Globalstar™, Loral faced some of the complex interference issues that non-geostationary systems like SkyBridge must address.

Loral owns Loral Skynet®, a leading domestic Fixed-Satellite Service ("FSS") operator that operates the fleet of C- and Ku-band Telstar satellites in geostationary orbit. Loral has been licensed by the Commission to construct, launch and operate a Ka-band system, CyberStar™, that will provide world-wide broad-band services.[2] Loral also owns Space Systems/Loral, one of the world's premier satellite manufacturing companies.

Loral supports the FCC's traditional policy of maximizing the use of scarce radio frequency spectrum for satellite applications. The Commission's pragmatic and spectrum efficient satellite regulatory policies have enabled the U.S. commercial satellite industry to flourish. Loral believes that the SkyBridge system, which proposes to employ a GSO orbital arc avoidance technique, has substantial merit and represents an innovative means to use scarce Ku-band spectrum efficiently.[3] After evaluating the technical and business merits of the SkyBridge system, Loral has made a significant strategic investment in SkyBridge and has entered into a joint marketing agreement with Alcatel to jointly promote services offered by Loral's CyberStar™ program and SkyBridge.

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2 See In the Matter of Loral Space & Communications Ltd. Application for Authority to Construct, Launch and Operate a Ka-Band Satellite System in the Fixed-Satellite Service, *Order and Authorization*, DA 97-974, File No. 109-SAT-P/LA-95 (rel. May 9, 1997).

3 See Application of SkyBridge LLC, FCC File No. 48-SAT-P/LA-97 (filed February 28, 1997).

Existing GSO and terrestrial operators need to assess and comment on the technical proposals made by SkyBridge before any new rules are adopted. NGSO FSS systems, such as SkyBridge, operating in the congested "commercial" Ku-band must avoid interfering with GSO systems. A rulemaking to evaluate the regulatory changes and develop the technical criteria necessary to protect existing GSO Ku-band and terrestrial fixed systems while permitting implementation of innovative systems like SkyBridge on a non-interfering basis would advance the public interest, convenience and necessity.

The SkyBridge Technical Architecture Requires a Different Interference Methodology

According to the SkyBridge Application and in simple terms, the SkyBridge System is designed so that when any SkyBridge satellite beam approaches within 10 degrees of the geostationary arc, the SkyBridge beam shuts off, thus preventing interference with GSO systems. The SkyBridge beam is allowed to operate again once the orbiting SkyBridge satellite has moved and the beam no longer falls within the 10 degree GSO arc avoidance zone.[4] The orbital arc avoidance technique and selection of appropriate NGSO power levels will allow SkyBridge to use Ku-band spectrum previously thought to be unusable by additional satellite systems without interfering with GSO systems.

Because the interference environment changes over any given period of time due to the motion of SkyBridge's multiple satellite and tracking earth station architecture, SkyBridge has avoided "snapshot" interference protection criteria and instead offered protection criteria based on a statistical approach. Instead, SkyBridge proposes certain "hard" power flux-density limits on its NGSO FSS system that are designed to protect existing GSO FSS and BSS satellite service providers.[5] These statistical limits express the percentage of time that GSO systems would receive interference above certain power-flux density limits

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4 See generally id.

5 Id. at 18-23.

generated by the SkyBridge orbit constellation on the downlink ("equivalent power flux-density") and uplinks from visible earth stations communicating with SkyBridge ("aggregate power flux-density").[6]

SkyBridge's proposed statistical approach, once properly vetted, could permit an innovative new satellite system to operate in the Ku-band without causing harmful interference to existing operators. Loral believes that a promptly initiated rulemaking will permit all interested satellite industry operators to analyze and comment on whether the proposed methodology and protection criteria would adequately protect existing and planned GSO systems. A rulemaking would permit satellite service operators to help refine and further develop the statistical protection methodology proposed and to evaluate what impact SkyBridge's proposed power flux-density levels would have on the various types of services (e.g., analog TV, narrow-band digital and broad-band digital services) currently operating in the Ku-band. Loral believes that these issues are best addressed in the context of a rulemaking where all affected parties have an opportunity to develop a full record so that the Commission may take appropriate action.

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[6] Id. at 18.

Conclusion

For the reasons discussed above, Loral Space & Communications respectfully asks the Commission to consider these comments and promptly initiate a rulemaking as requested by SkyBridge L.L.C.

Respectfully submitted,
LORAL SPACE & COMMUNICATIONS LTD.

by: 

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I, Trisha Southerland HEREBY CERTIFY that a true copy of the *Comments in Support of Petition for Rulemaking* of Loral Space & Communications Ltd. was

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